

REQUEST FOR PARTNERS IN RESEARCH AND CITIZEN SCIENCE: ***THE WATER ACADEMY, USA & CANADA***

Earthwatch Institute is an international non-profit organization with the mission to “engage people worldwide in scientific field research and education to promote the understanding and action necessary for a sustainable environment.” Earthwatch and HSBC are collaborating on The Water Academy, a global program made up of several regional water-related research projects. Projects will focus on a water issues pertinent to the local city and might include urban pollution, water infiltration, heat island effects, and carbon stocks. Whilst providing vital and leading research on these issues, the program will present an opportunity for HSBC employees and stakeholders to get hands-on experience in gathering valid and robust research data as citizen scientists. In the USA and Canada these activities will take place over a one-day environmental research and learning experience in multiple cities across the region in 2018 & 2019.

Earthwatch is currently seeking science partners who have ongoing research related on the relationship of green infrastructure with urban sustainability and the water cycle, and who would be interested in leading the USA and Canada research effort of this global program.

RESEARCH:

We are seeking a research project across multiple cities that will address local needs and interests as well as deliver a robust scientific output and policy impact.

The principal investigator (PI) (also referred to as research partner), together with local partners (NGOs, reserve managers, local scientists) in each city, will select study and training sites to explore the impact of green infrastructure with respect to local conditions. Citizen scientists (HSBC employees) will participate in 1 day Water Academy events during which approximately 4 hours will be dedicated to research training and data collection, to be led by the research partner. The rest of the day will be dedicated to Water Academy learning sessions, designed and led by Earthwatch staff. The research partner will be responsible for engaging citizen scientists to collect unique data that will provide a clear and valuable contribution to the local and regional scientific objectives. The research project can also include complementary data that can be collected using remote (satellites) and/or in-situ sensors. HSBC employees will collect environmental data in relevant green spaces. The research project can focus on research topics including but not limited to:

- Local microclimate conditions (in-situ sensors and thermal imagery)
- Local soil hydrological characteristics including soil permeability and moisture content (using soil probes and citizen science based permeability columns)
- Air pollution accumulation on leaf surfaces (in situ analysis of tree leaves and ground surfaces in relation to dry/wet deposition of air pollution and in situ sensors for long term monitoring)
- Local land use and green infrastructure mapping (microscale data gathering and ground truthing of remote sensing information)
- Local tree, shrub, and other plant characteristics.

QUESTIONS:

**If you have questions regarding the program or application process
please contact us at research@earthwatch.org**

DELIVERABLES:

The PI or co-PI (post-doctoral researcher) must be present for all Water Academy events and provide training for the citizen scientists

We are specifically looking for a research partner who can provide:

- A coherent hypothesis-based research project (citizen scientist collected data, sensors, etc.) across the six cities (see table below)
- Peer-reviewed publications resulting from the research
- Research data collection tasks suitable for non-specialists (Earthwatch citizen scientists)
- Assistance in identifying suitable field-research sites in each city
- Staff who are trained in working with the public/community
- Engagement of 10–20 people during one day Water Academy events, which will take place in April–June and September–October in 2018 and 2019
- Flexibility to work with Earthwatch Risk Management Practices

WATER ACADEMY EVENTS:

The locations and total number of Water Academy events has already been determined and is listed in the table below. Each Water Academy event is one day in length, half of the day will be dedicated to research training and data collection led by the research partner, the other half of the day will be dedicated to learning sessions designed and led by Earthwatch staff.

Country	City	2018	2019
USA	New York City	3	2
	Buffalo	2	
	Chicago	1	1
	California (city TBD)		2
Canada	Vancouver	4	4
	Toronto	1	1

FUNDING:

Grant funding will cover research related costs which can include equipment, sensors, supplies, post-doc salary, and research assistant salary. The grant cannot cover tenured scientist salaries, overhead, or expensive equipment. Grants are negotiated on an individual basis. Total research funding available through December 2019 is US\$190,000. Costs related to running the Water Academy events (site rental, food, and travel expenses for the PI or post-doc to the events) will be budgeted for separately. Contracts will be renewable on an annual basis.

HOW TO APPLY:

1. **Abstracts** should be submitted by 11:59 pm PDT July 30, 2017—All abstracts and supporting documents must be in English. Criteria for selection are: quality and relevance of the project proposed, PI qualifications, and goodness of fit for citizen science. To submit an abstract, visit: <https://fs22.formsite.com/EarthwatchResearch/Abstract/index.html>
2. **Phone interview**—Selected PIs will be invited to an interview August 7–18, 2017.
3. **Proposal**—Selected PIs will be invited to submit a proposal which will be due September 24, 2017. All proposals will undergo external peer review.

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